



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,416	09/16/2003	Bruce B. Randolph		2714

7590 12/27/2007  
RICHMOND, HITCHCOCK, FISH & DOLLAR  
P.O. Box 2443  
Bartlesville, OK 74005

EXAMINER
----------

MCDONOUGH, JAMES E

ART UNIT	PAPER NUMBER
----------	--------------

1793

MAIL DATE	DELIVERY MODE
-----------	---------------

12/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/663,416

**Applicant(s)**

RANDOLPH ET AL.

**Examiner**

James E. McDonough

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 30-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 30-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Original Rejection**

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 and 30-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Aumuller, et al. (US 5,714,611).

Aumuller, et al. disclose an acid catalyst composition comprised of methanesulfonic acid, trifluoromethanesulfonic acid, benzenesulfonic acid, p-toluene sulfonic acid, mineral acids (Bronsted" Acid), or carboxylic acids, heavy metal catalysts (Lewis acid) and organic catalysts such as phosphonium compounds or quaternized hetero ammonium compounds with anhydrous halides (used to make ionic liquid), used in an amount from 0.01 to 25 mole percent and are used to stabilize alkyl acrylate copolymers, alkyl methacrylate copolymers and other polymers (col. 6, l. 1 - col. 7, l. 54; col. 8, l. 56- col. 9, l. 17).

Claims 1-7 and 30-36 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Aumuller (US 5914360).

Aumuller discloses an acid catalyst composition comprised of methanesulfonic acid, trifluoromethanesulfonic acid, benzenesulfonic acid, p-toluene sulfonic acid, mineral acids (Bronsted Acid), or carboxylic acids, heavy metal catalysts (Lewis acid) and organic catalysts such as phosphonium compounds or quaternized hetero ammonium compounds with anhydrous halides (used to make ionic liquid), used in an amount from 0.01 to 25 mole

percent and are used to stabilize alkyl acrylate copolymers, alkyl methacrylate copolymers and other polymers (col. 6, l. 1 - col. 7, l. 54; col. 8, l. 56 - col. 9, l. 17). The specification discloses that increasing the amount of catalyst above 25 mole percent has no adverse effect on the reaction but offers no further advantages (col. 6, l. 20-26). The prior art appears to anticipate the invention as claimed on the basis of inherent property characteristics but alternatively would be considered obvious because molar ratios above 25% were disclosed and although specific mole percentages were not given, it would have been obvious to one of ordinary skill in the art to use incremental molar percentage increases to 100% in order to determine whether any substantial increase in catalytic activity or specificity were seen.

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hlatky (WO 01181436 A1).

Hlatky discloses a process (p. 4, l. 1-3) for the polymerization of one or more olefins (p. 7, l. 20-29) in the presence of a single site catalyst (Ziegler-Natta), optional activator (methaluminoxane, boranes) and an ionic liquid (Lewis acid and halide - p. 6, l. 3 - p. 7, l. 16). Ethylene polymerization examples are given (p. 10, l. 1-26).

Claims 1, 7-9, 37, and 38 rejected under 35 U.S.C. 102(b) as being anticipated by Stevens et al. (USP 2,258,368).

Stevens et al. teaches a composition that comprises 45-95 g H<sub>2</sub>SO<sub>4</sub> per 100 cc, and since the density of concentrated sulfuric acid solution is about 1.8 g/cc, 95 G per 100 cc is over 50 % by weight, the composition also contains a polymer (page 5, column 1, lines 1-10).

### **Response to Arguments**

Applicants arguments with respect to the objection to the specification is found persuasive, therefore it has been withdrawn.

Applicants argue against the Aumuller references.

Applicants argue that the reference of Aumuller do not disclose composition comprising both an acid component and a polymer. This is not persuasive because the Aumuller references teach that these composition are useful in stabilizing polymers which would imply that they are present in composition with polymers. Furthermore, Aumuller teaches that the formation of the compound Ia is produced in the presence of polyethylene glycol, which, clearly is a polymer.

Applicants argue against the reference of Hlatky.

Applicants argue that Hlatky does not teach a composition comprising both an acid component and a polymer. This is not persuasive because the acid component is used for polymerization which implies that the acid component and polymer will be present together.

Applicants argue against the reference of Stevens.

Applicants argue that Stevens does not teach a composition comprising an acid component and a polymer because the polymer separates from the acid component. This is not persuasive because the acid component is producing a polymer and they will be mixed even if they separate, and furthermore there are no limitations that these components must be homogenous.

### Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James E. McDonough whose telephone number is (571)272-6398. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JEM 12/11/2007

  
J. A. LORENGO  
SUPERVISORY PATENT EXAMINER